

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**TP-04079-PCT**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2005/003464**

International filing date (day/month/year)

**02.03.2005**

Priority date (day/month/year)

**12.03.2004**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**TORAY INDUSTRIES, INC.**

1. This opinion contains indications relating to the following items:



Box No. I

Basis of the opinion



Box No. II

Priority



Box No. III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability



Box No. IV

Lack of unity of invention



Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement



Box No. VI

Certain documents cited



Box No. VII

Certain defects in the international application



Box No. VIII

Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(h) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:

☒ paid additional fees

☐ paid additional fees under protest

☐ not paid additional fees

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

☐ complied with

☒ not complied with for the following reasons:

The subject matters of claims 1-12 and 14, and the subject matters of claims 13 and 15 are common only in that claims 12 and 13 relate to a relief pattern of a resin, and claims 14 and 15 relate to a solid-state imaging element using the relief pattern, and the subject matters of claims 1-12 and 14, and the subject matters of claims 13 and 15, do not have any other common technical features.

Therefore, it is evident that the subject matters of claims 1-12 and 14, and the subject matters of claims 13 and 15, do not satisfy the requirement of unity of invention.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

☒ all parts

☐ the parts relating to claims Nos. \_\_\_\_\_

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**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims	1 - 15	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1 - 15	NO
Industrial applicability (IA)	Claims	1 - 15	YES
	Claims		NO

**2. Citations and explanations:**

Document 1; JP, 2003-287883, A (JSR Corp.), 10 October, 2003 (10.10.03), claims, [0034], [0068], [0072], [0073], [0074], & WO, 03-065384, A1, & US, 2004-0094752, A1

Document 2; JP, 2003-75997, A (Toray Industries, Inc.), 12 March, 2003 (12.03.03), full text

Document 3; JP, 2002-338829, A (JSR Corp.), 27 November, 2002 (27.11.02), [0004], [0115], [0185]-[0187], & WO, 02-072705, A1, & US, 2003-0171468, A1

Document 4; JP, 2002-338828, A (JSR Corp.), 27 November, 2002 (27.11.02), [0004], [0093], [0166]-[0168], & WO, 02-006656, A1, & US, 2003-00187119, A1

Document 5; JP, 5-323599, A (Sumitomo Chemical Co., Ltd.), 07 December, 1993 (07.12.93), full text

Document 6; JP, 2000-39503, A (Matsushita Electric Industrial Co., Ltd.), 08 February, 2000 (08.02.00), claims, [0042]

Document 7; JP, 11-64608, A (Dainippon Printing Co., Ltd.), 05 March, 1999 (05.03.99), [0012]-[0014], & EP, 902316, A2, & US, 6157491, A

Document 8; JP, 2002-118245, A (Sharp Corp.), 19 April, 2002 (19.04.02), claims, [0017]-[0018], [0053], [Fig. 12]

(Claims 1-5, 10, and 12)

The subject matters of claims 1-5, 10, and 12 do not appear to involve an inventive step in view of document 1 cited in the ISR.

In document 1, it is described that an ultraviolet absorber and the like are contained as an optional component, as well as that an alkali developable resin, a naphthoquinone diazide and titania of 0.02  $\mu\text{m}$  to 0.03  $\mu\text{m}$  are used, and a heating and curing process is also included. A person skilled in the art could have easily employed an appropriate amount of a suitable ultraviolet absorber.

And document 1 (claim 6, [0064], [0067]) describes that the alkali developable resin is a novolak resin and is a hydroxystyrene resin.

Furthermore, a coumarin derivative, a benzotriazole derivative and a hydroxybenzophenone derivative are a well-known backbone of an ultraviolet absorber as described in documents 3, 4, and 5 cited in the ISR.

(Claims 1-12 and 14)

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The subject matters of claims 1-12 and 14 do not appear to involve an inventive step in view of documents 2-4 cited in the ISR.

Document 2 describes a constitution other than the component (b).

And documents 3 and 4 also describe that, in a positive photosensitive resin composition containing a hydroxy polyamide polymer and the like, which is used for a microlens, employing an ultraviolet absorber is effective in gradually reducing a quantity of oxygen as the depth from the surface is increased.

Therefore, a person skilled in the art could have easily employed an appropriate amount of a suitable ultraviolet absorber in order to produce a microlens in document 2.

(Claims 13 and 15)

The subject matters of claims 13 and 15 do not appear to involve an inventive step in view of documents 6-8 cited in the ISR.

In document 6, it is considered that the described size corresponds to that of the aforesaid claims and obviously the transmittance also corresponds to that of the aforesaid claims in view of the intended purpose of use, however, a taper angle is not particularly described.

However, a person skilled in the art could have easily set a suitable taper angle in document 6, as in the description of documents 7 and 8 wherein a taper angle is adjusted.

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Box No. VIII      Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The (b) component of claims 1, 2, 3, and 9 is just specified by a property to be required. What chemical compounds are specifically contained cannot be identified other than the described specific group of chemical compounds, and is unclear.

The subject matters of claims 13 and 15 have no example generated specifically and are not sufficiently supported.

Furthermore, the claims just specify the size, the shape and the transmittance, and specifically what it is like is unclear.